Claims:

1. Method of electroplating a workpiece comprising high-aspect ratio holes, the method comprising:

   a. bringing the workpiece and at least one anode into contact with a metal plating electrolyte, and
   b. applying a voltage between the workpiece and the anodes, to the effect that a current flow is provided to the workpiece, wherein the current flow is a pulse reverse current flow having a frequency of at most about 6 Hertz with, in each cycle time, at least one forward current pulse and at least one reverse current pulse.

2. Method according to claim 1, comprising setting the ratio of the duration of the forward current pulses to the duration of the reverse current pulses of one cycle in a range from about 5 to about 75.

3. Method according to any one of the preceding claims, comprising setting the duration of the forward current pulses of one cycle to at least about 100 ms.

4. Method according to any one of the preceding claims, comprising setting the duration of the reverse current pulses of one cycle to at least about 0.5 ms.

5. Method according to any one of the preceding claims, comprising setting the peak current density of the forward current pulses at the workpiece in a range from about 3 A/dm² to about 15 A/dm².

6. Method according to any one of the preceding claims, comprising setting the peak current density of the reverse current pulses at the workpiece in a range from about 10 A/dm² to about 60 A/dm².

7. Method according to any one of the preceding claims, comprising

a. applying a first voltage to between a first side of the workpiece and at least one first anode, to the effect that a first pulse reverse current flow is provided to the first side of the workpiece, said first pulse reverse current flow having at least one first forward current pulse and at least one first reverse current pulse flowing in each cycle time, and

b. applying a second voltage to between a second side of the workpiece and at least one second anode, to the effect that a second pulse reverse current flow is provided to the second side of the workpiece, said second pulse reverse current flow having at least one second forward current pulse and at least one second reverse current pulse flowing in each cycle time.

8. Method according to claim 7, comprising offsetting the first forward and reverse current pulses relative to the second forward and reverse current pulses, respectively.

9. Method according to claim 8, comprising offsetting the first current pulses relative to the second current pulses by approximately 180°.

10. Method according to any one of the preceding claims, comprising providing the current flow, in each cycle time, with two forward current pulses and one reverse current pulse with one zero current break between the two forward current pulses.

11. Method according to any one of the preceding claims, comprising varying, in the course of metal plating the workpiece, at least one parameter of the pulse reverse current flow, selected from the group comprising the ratio of the duration of the forward current pulses to the duration of the reverse current pulses of one cycle and the ratio of the peak current density of the forward current pulses to the peak current density of the reverse current pulses.

12. Method according to claim 11, comprising increasing, in the course of metal plating the workpiece, the ratio of the peak current density of the forward current pulses to the peak current density of the reverse current pulses, and/or decreasing, in the course of metal plating the workpiece, the ratio of the duration of the forward current pulses to the duration of the reverse current pulses of one cycle.

13. Method according to any one of the preceding claims, comprising bringing the workpiece into contact with the metal plating electrolyte by delivering the metal plating electrolyte towards the surface of the workpiece at an electrolyte flow velocity relative to the surface of the workpiece.

14. Method according to claim 13, comprising forcing the metal plating electrolyte under agitation towards the workpiece.

15. Method according to any one of claims 13 and 14, wherein the electrolyte flow velocity at the surface of the workpiece comprises a velocity component normal to the surface of the workpiece being at least about 1 m/sec.

16. Method according to any one of the preceding claims, wherein the anodes are inert and dimensionally stable.

17. Method according to any one of the preceding claims, wherein the metal plating electrolyte is a copper plating electrolyte.

18. Method according to claim 17, wherein the copper plating electrolyte contains at least one compound capable of oxidizing copper metal to copper ions and wherein additional copper metal pieces are brought into contact with the copper plating electrolyte.

19. Method according to claim 18, wherein the compounds capable of oxidizing copper metal to copper ions are ferric compounds.